



TEST TOOLS CATALOGUE



PARTS DIVISION

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DIGITAL MULTIMETERS

Safety, quality and performance: three words that sum up the benefits of our range of digital multimeters. Designed to help you do your job faster, more efficiently and with greater accuracy, there is a model for every budget and application.



80 SERIES V DIGITAL MULTIMETERS

FLUKE®



FLUKE 87V • REF 131TA8449

Battery life: Over 400 hours typical (Alkaline)

Size (HxWxD): 200 mm x 95 mm x 48 mm

Weight: 0,6 kg

Lifetime warranty



On all inputs



INCLUDED ACCESSORIES

TL75 test leads, AC72 alligator clips, yellow holster (H80M excl. TPAK), 80BK temperature probe, 9 V battery (installed), CD-Rom (user's manual and technical notes) and operator's guide.

RECOMMENDED ACCESSORIES



C25

REF 131TA8450
See page 27



i1010

REF 131TA8445
See page 12



TPAK

REF 131TA8446
See page 26

COMBO KIT



**FLUKE 87V/E2
REF 131TA8451**

Industrial Electrician Combo Kit

- Fluke 87V True RMS Multimeter
- TL224 SureGrip™ Silicone Test Lead Set
- TP38 Slim Reach Test Probe Set (insulated)
- AC220 SureGrip™ Alligator Clip Set
- TPAK Magnetic Hanger
- 80BK Integrated DMM Temperature Probe
- C35 Soft Meter Case

Performance and accuracy for maximum industrial productivity

The Fluke 80 Series V have improved measurement functions, troubleshooting features, resolution and accuracy to solve more problems on motor drives, in-plant automation, power distribution, and electro-mechanical equipment.

The Fluke 87V has a unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment. A built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument.

FEATURES

True-RMS voltage and current for accurate measurements on non-linear signals	✓
Bandwidth (voltage/current)	20 kHz
Digital display counts (default/selectable)	20000 / 6000
Selectable filter for accurate voltage and frequency measurements on motor drives	✓
Large display with analog bargraph and two-level bright white backlight	✓
Auto and manual ranging for maximum flexibility	✓
Built-in thermometer lets you carry one less tool	✓
Peak capture to record transients as fast as 250 µs	✓
Relative mode to remove test lead resistance from low ohm measurements	✓
Min-Max-Average recording with Min/Max Alert to capture variations automatically	✓
AutoHOLD® to capture stable readings avoiding noisy signals	✓
Audible continuity, diode test and duty cycle	✓
Input alert	✓
"Classic" design with new removable holster with built-in test lead and probe storage	✓
Improved selectable sleep mode for long battery life	✓
Easy battery exchange without opening the complete case	✓

SPECIFICATIONS

Functions	Maximum range	Max resolution	Accuracy
Voltage DC	1000 V	10 µV	±(0,05%+1)
Voltage AC	1000 V	10 µV	±(0,7%+2)
Current DC	10 A **	0,01 µA	±(0,2%+2)
Current AC	10 A **	0,01 µA	±(1,0%+2)
Resistance	50 MΩ	0,01 Ω	±(0,2%+1)
Conductance	60 nS	0,001 nS	±(1,0%+10)
Capacitance	9999 µF	0,01 nF	±(1,0%+2)
Frequency	> 200 kHz	0,01 Hz	±(0,005%+1)
Temperature	-200 to 1090 °C	0,1 °C	1,0%
80BK temperature probe	-40 to 260 °C	-	2,2 °C or 2%

Accuracies are best accuracies for each function.

* 87V accuracy is stated for 6000 counts and resolution for 20000 counts

** 20 A up to 30 seconds

170 SERIES DIGITAL MULTIMETERS

FLUKE®



FLUKE 175 • REF 131TA8447

Battery life: 200 hours typical (Alkaline)
Size (HxWxD): 190 mm x 85 mm x 45 mm
Weight: 0,42 kg
Lifetime warranty



On all inputs

LISTED



INCLUDED ACCESSORIES

Test leads with 4 mm lantern tips and protective cap, installed 9 V battery and user's manual.

RECOMMENDED ACCESSORIES



C90
REF 131TA8448
See page 27



i1010
REF 131TA8445
See page 12



TLK220
REF 134TA8375
See page 24

Versatile meters for field service or bench repair

These meters have the features needed to find most electrical, electromechanical and heating and ventilation problems.

They are simple to use and have significant improvements over Fluke's original 70 Series like True-RMS, more measurement functions, conformance to the latest safety standards, and a much larger display that is easier to view.

FEATURES

True-RMS measurements	AC
Digital display counts, updates 4 times per second	6000
Analog bargraph / 33 segments, updates 40 times per second	✓
Auto and manual ranging	✓
Display hold and AutoHOLD®	✓
Min-Max-Average recording mode with Min/Max Alert	✓
Smoothing mode allows filtering of rapidly changing inputs	✓
Audible continuity and diode test	✓
Test lead alert	✓
Unsafe voltage alert warns for voltages above 30 V	✓
Low battery indication	✓
Ergonomic case with integrated holster	✓
Easy battery and fuse exchange without opening the complete case	✓
Selectable sleep mode preserves battery life	✓

SPECIFICATIONS

Functions	Maximum range	Max resolution	Accuracy
Voltage DC	1000 V	0,1 mV	±(0,15%+2)
Voltage AC	1000 V	0,1 mV	±(1,0%+3)
Current DC	10 A	0,01 mA	±(1,0%+3)
Current AC	10 A	0,01 mA	±(1,5%+3)
Resistance	50 MΩ	0,1 Ω	±(0,9%+1)
Capacitance	10000 μF	1 nF	±(1,2%+2)
Frequency	100 kHz	0,01 Hz	±(0,1%+1)
Temperature	-40 °C/+400 °C	0,1 °C	-

Accuracies are best accuracies for each function



FLUKE 115 • REF 126TA6025

Battery life: 400 hours typical (9 volt Alkaline)

Size (HxWxD): 167 mm x 84 mm x 46 mm

Weight: 0,55 kg

Three-year warranty



On all inputs

LISTED



INCLUDED ACCESSORIES

Test leads with 4 mm lantern tips and protective cap, holster, installed 9 V battery and user's manual.

RECOMMENDED ACCESSORIES



C50
REF 131TA8444
See page 27



TPAK
REF 131TA8446
See page 26

Compact design for ergonomic one-handed operation

Fluke 115 Field Service Testing Multimeter

An everyday multimeter for technicians, the 115 is for electrical and electronic testing in field service, industrial, and applications where more than the basic functions simplify work.

FEATURES

True RMS readings	AC
Counts	6000
Backlight	✓
Analog bargraph	✓
Min/Max/Average to record signal fluctuations	✓
Resistance, continuity	✓
Frequency, capacitance, diode test	✓
Display hold	✓
Auto/manual ranging	✓
Low battery indication	✓
Compact case with removable holster	✓

SPECIFICATIONS

Functions	Maximum range	Max. resolution	Accuracy
Voltage DC	600 V	1 mV	±(0,5%+2)
Voltage AC	600 V	1 mV	±(1,0%+3)
Current DC	10,00 A	1 mA	±(1,0%+3)
Current AC	10,00 A	0,01 A	±(1,5%+3)
Resistance	40 MΩ (113: 60 KΩ)	0,1 Ω	±(0,9%+1)
Capacitance	10000 µF	1 nF	±(1,9%+2)
Frequency	50 kHz	0,01 Hz	±(0,1%+2)

Accuracies are best accuracies for each function.

THE NEW FLUKE 233

REMOTE DISPLAY DIGITAL MULTIMETER

FLUKE®



FLUKE 233 • REF 135TA3042

Battery life: 400 hours (AA-batteries)

Size (HxWxL): 53 mm x 93 mm x 193 mm

Weight: 0,604 kg

Three-year warranty

INCLUDED ACCESSORIES

Getting Started Manual (Printed), AA-batteries (installed), Test leads, AC72 Alligator clips, 80BK-A Temperature Probe, CD-Rom (user manual & technical notes and application images)

RECOMMENDED ACCESSORIES



AC285
REF 131TA8467
See page 26



TL220
REF 107TA1224
See page 25



TPAK
REF 131TA8446
See page 26



i1010
REF 131TA8445
See page 12

The first Fluke digital multimeter with a detachable display is here.

Imagine the possibilities !

The 233 wireless remote DMM allows maintenance professionals to address an age-old problem - display positioning.

Your customers struggled with:

- Twisting uncomfortably to read the display and keep the probes in place
- Wishing for a third hand while taking a measurement
- Running from one place to another to take a measurement

- Needing a second person to read the display, while they were flipping the switch
- Focusing on the display, while making sure the probes stayed in the right place

Now, their problems are over.

The new Fluke 233 can be used for even the most common meter measurements and is especially suited for those situations where display viewing is challenging.

KEY FEATURES AND BENEFITS

- True-RMS AC voltage and current for accurate measurements on non-linear signals
- Measure up to 1000 V AC and DC
- Measure up to 10 A (20 A for 30 seconds)
- 10,000 μ F capacitance range
- Frequency to 50 kHz
- Convenient built-in thermometer allows you to take temperature readings without having to carry a separate instrument
- Resistance, continuity and diode test
- Low power wireless technology allows the display to be carried up to 10 meters (33 ft) away from the point of measurement for added flexibility. No interference with measurements
- The removable magnetic display can be conveniently mounted where it is easily seen
- Take measurements without holding the meter to improve visual focus on probes and augment safe electrical measurements
- Use as a conventional multimeter when the display is connected
- Radio transmitter automatically turns off when the display is connected to the meter
- Auto power off maximizes battery life
- Min/Max and Average recording to capture variations automatically
- Test continuity and diodes
- Easy to read display with large digits and bright backlight
- Battery life approximately 400 hours

THE NEW FLUKE 233

REMOTE DISPLAY DIGITAL MULTIMETER

FLUKE®



The first Fluke digital multimeter with a detachable display is here.

PRODUCT SPECIFICATIONS

DC Voltage	Range: 0,1 mV to 1000 V
	Accuracy: 0,25 % + 2
AC Voltage	Range: 0,1 mV to 1000 V
	Accuracy: 1,0 % + 3
DC Current	Range: 1 mA to 10 A
	Accuracy: 1,0 % + 3
AC Current	Range: 1 mA to 10 A
	Accuracy: 1,5 % + 3
Resistance	Range : 0,1 Ω to 40 M Ω

KEY FEATURES AND BENEFITS

Counts	6000	
Capacitance	1000 nF to 9999 μ F	
Frequency	0.1 Hz to 50,00 kHz 0.2	
Temperature	-40 °C to +400 °C	
Power	AA-batteries: three for main body; two for display	
Battery life	400 hours	
Wireless frequency	2,4 Ghz ISM Band 10 meter range	
Safety rating	CAT IV 600 V, CAT III 1000 V	
Basic features	AC true-RMS Yes Ranging Auto/Manual	
Display	Backlight Yes	
Data storage	Min/Max/Average Yes	
Other features	Battery type AA alkaline Removable display Yes	
Warranty and protection	Safety ranging	CAT IV 600 V / CAT III 1000 V
	External protection	Rubber overmold
	Warranty	Three years
	Size (HxWxL)	5,3 cm x 5,3 cm x 19,3 cm
	Weight	604 g



88V AUTOMOTIVE MULTIMETER

FLUKE®



FLUKE 88V/A • REF 129TA7684

Battery life: Over 400 hours typical (alkaline)

Size (HxWxD): 186 mm x 86 mm x 32 mm

Weight: 0,36 kg

Lifetime warranty



On all inputs

LISTED



INCLUDED ACCESSORIES

H80M Holster with TPAK Meter Hanging Solution, TL224 SureGrip Silicone Test Lead Set, TP220 SureGrip Test Probe Set, AC285 SureGrip Large Jaw Alligator Clip Set, 80BK Integrated Temperature Probe, RPM80 Inductive Pick-up Probe, C800 Hard Case, User's Manual + Quick Reference Guide

RECOMMENDED ACCESSORIES



TLK282
REF 131TA8462
See page 24

The right meter for auto-electrical diagnosis

Perhaps the most important tool you will use in troubleshooting auto-electrical systems is the multimeter.



Basic multimeters measure voltage, current and resistance, while automotive multimeters like the Fluke 88V have features that can check frequency, duty cycle, make diode tests, and measure temperature, pressure and vacuum.

FEATURES

Continuity for detecting open and shorts	✓
Frequency for "pulsed-DC" and AC tests	✓
Duty cycle to verify operation of feedback carburetors	✓
Diode test for alternator testing	✓
Built-in thermometer; thermocouple probe included	✓
Min/Max/Average recording with Min/Max Alert	✓
Peak capture to record transients as fast as 250 µs	✓
Relative mode to remove test lead resistance from low ohm measurements	✓
Millisecond pulse width measurements for fuel injectors	✓
AutoHOLD® to capture stable readings	✓
Large display with bright, two-level backlight	✓
Magnet hanger to attach meter to the vehicle	✓
RPM80 Inductive pickup for both conventional and distributorless (DIS) ignitions	✓
Hard meter case	✓
Safety rating	CAT III 1000 V, CAT IV 600 V

SPECIFICATIONS

Functions	Range	Resolution	Accuracy
Voltage DC	1000 V	0,1 mV	0,1%
Voltage AC	1000 V (5 kHz)	0,1 mV	0,5%
Current DC	10 A	0,1 µA	0,4%
Current AC	10 A	0,1 µA	1,2%
Resistance	50 MΩ	0,1 Ω	0,4%
Capacitance	10 mF	0,01 nF	1%
Frequency	200 kHz	0,01 Hz	0,005%
Temperature	1090 °C	0,1 °C	1%

CLAMP METERS & ELECTRICAL TESTERS

The ergonomic clamp meters feature wide opening jaws for safe, fast non-contact current measurement.



FLUKE 336 • REF 106TA8961

Battery life: 150 hours (Alkaline)
Size (HxWxD): 251 mm x 79 mm x 41 mm
Jaw opening: 42 mm
Weight: 0,312 kg
Three-year warranty



LISTED



INCLUDED ACCESSORIES

C33 Soft case, TL75 test leads, 2 AA alkaline batteries, instruction card and safety information sheet.

RECOMMENDED ACCESSORIES



H3
REF 131TA8452
 See page 27

Expanded capabilities for current measurement

The Fluke 330 Series Clamp Meters offer all the features you need to fit the way you work. The small body and jaws fit perfectly in your hand and into tight places. Meter controls are positioned so that current measurements can be done with one hand. A large backlight display is easy to see and a handy display hold keeps measurements on the display.

Measuring starting current for motors, lighting, etc. is easy with the inrush current function.

FEATURES

True-RMS	✓
Display backlight	✓
Auto shut-off	✓
Display hold	✓
Motor start-up current	✓
Low battery indication	✓
Large jaw	✓
Current AC/DC	✓

SPECIFICATIONS

Functions	Range	Accuracy
Current AC	0-600,0 A	2% ± 5 counts
Crest factor	0-600,0 A	3 @ 500 A
		2,5 @ 600 A
Current DC	0-600,0 A	2% ± 5 counts
In-rush current	Integration time	100 mS
Voltage AC	0-600,0 V	1% ± 5 counts
Voltage DC	0-600,0 V	1% ± 5 counts
Resistance	0-600,0 Ω	1,5% ± 5 counts
	0-6000 Ω	1,5% ± 5 counts
Continuity		≤ 30 Ω

i1010 • REF 131TA8445



SPECIFICATIONS AC/DC MODELS

Measurement type	Hall sensor
Nominal current range(s)	600 A, AC / 1000 A, DC
Continuous current range	1 A - 600 A, AC / 1 A - 1000 A, DC
Highest current	1000 A
Lowest measurable current	0,5 A
Basic accuracy ¹⁾	2% +0,5 A
Useable frequency	DC - 10 kHz
Zero error adjustment	✓
Max working voltage	600 V
Maximum conductor diameter	30 mm / 2 x 25 mm
Output level(s)	1 mV/A
Battery, battery life	9 V, 60 h
Output cable length	1,6 m
Shrouded banana plugs	✓
Safety	CAT III, 600 V

¹⁾ Basic accuracy: % reading + floorspec

CURRENT CLAMP COMPATIBILITY CHART

113/114/115/116/117	✓
175/177/179	✓
187/189	✓
287/289	✓
27	✓
8845A/8846	✓
8808A	✓
77 IV	✓
83V/87V	✓
88V	✓
123/124	2
125	2
190 Series/215C/225C	2
1577/1587	✓
715	1
724	1
725	1
741B/743B/744	✓
787	✓
789	✓

1) For DC only

2) Requires PM 9082

411D LASER DISTANCE METER

FLUKE®



FLUKE 411D • REF 131TA8453

Operating temperature: 0 °C to 40 °C

Storage temperature: -25 °C to 70 °C

Operating altitude: up to 3500 m

Battery life: up to 3000 readings

Size (HxWxD): 123 mm x 50 mm x 26 mm

Weight: 0,150 kg

Two-year warranty

Professional-grade laser distance measuring tool that is fast, easy to use, and fits in your pocket.

The Fluke laser distance meter brings you the most advanced measuring technology. This meter is fast, accurate, durable, and easy to use — just point and shoot. Its straightforward design and easy, one-button operation means you will spend less time measuring. Unlike ultrasonic distance meters with laser pointers, the Fluke 411D uses a precision narrow laser beam that can avoid the common errors caused by extraneous objects near measurement targets.

This compact and handy Fluke distance meter is designed for indoor, and limited outdoor applications. Addition, subtraction, area, and volume calculations could not be simpler. The extra bright laser is clearly visible so you can see your targeting point even if an object is hard-to-reach or distant. The Fluke 411D has a large LCD screen and buttons positioned for one-handed measurements.

FEATURES

Reduction of estimation errors, saving both time and money	✓
Instant measurement with one-button operation	✓
Easy targeting with bright laser	✓
Quick calculation of area (square footage) and volume	✓
Easy addition and subtraction of measurements	✓
Improved battery life from automatic shut-off feature	✓
Pythagoras calculation for determining distance indirectly from two other measurements	✓
Pouch	✓

INCLUDED ACCESSORIES

Two AAA batteries, user's manual on CD, quick-start guide, nylon carrying case

SPECIFICATIONS

Functions	Accuracy
Range (for extended distances, use a target plate)	30 m
Accuracy	± 3 mm
Measurement units	00,000 m
Automatic power off	After 180 seconds

DIGITAL THERMOMETERS

For troubleshooting systems where temperature is a critical symptom, our digital thermometers provide you with laboratory accuracy wherever you need it. We offer a choice of non-contact, laser-guided infrared thermometers for safely getting at hard-to-reach, electrically live or particularly hot targets.



MULTIPURPOSE THERMOMETER

561

FLUKE®



FLUKE 561 • REF 131TA8454

Battery life: 12 hours (Alkaline)

Size (HxLxW): 176,9 mm x 163,6 mm x 51,8 mm

Weight: 0,34 kg

Two-year warranty



The Fluke 561 includes everything you need for immediate inspections.

INCLUDED ACCESSORIES

Thermocouple K-type Velcro® pipe probe, hand carrying case, 2 AA batteries and user manual with measurement guide.

RECOMMENDED ACCESSORIES



H6

REF 131TA8455

See page 27

Combined infrared and contact thermometer

The Fluke 561 combines the temperature measurement functions that industrial, electrical, and HVAC/R professionals need, all in one tool. It measures both IR and contact temperature, replacing several other test tools. It is fast, efficient, and easy to use, saving you valuable time and effort. With the Fluke 561, you can take contact and ambient temperatures in the way that is best for you. Use the IR thermometer to measure hot, moving, electrically energized, and hard-to-reach objects instantly. Check motors, insulation, breakers, radiant heating, pipes, corroded connections, and wires. Plus, scan ducts, and other hard-to-reach objects from the floor—leave your ladder in the truck. You can use the Fluke 561's

handy Velcro® pipe probe or, plug in any industry standard, K-type mini-connector thermocouple probe you already own.

- IR thermometer for quick measurements up close or at a distance
- Single-point laser sighting
- Easy emissivity adjustment for measuring pipes and ducts more accurately
- Includes a Velcro® pipe probe for superheat and sub-cooling as well as other surface contact measurements
- Also compatible with all standard miniconnector K-type thermocouples
- MIN, MAX and DIF temperature readings
- Lightweight (only 340 g) and portable
- Includes measurement guide

FEATURES

Temperature range	-40 ° to 550 °C
Display resolution	0,1 ° of reading
D:S (Distance to spot size)	12:1
Easy emissivity selector	Adjustable with three settings: low (0,3), medium (0,7), high (0,95)
Display accuracy (Assumes ambient operating temperature of 23 ° to 25 °C)	± 1,0% of reading or ± 1 °C, whichever is greater; below 0 °C, ± 1 °C, ± 1 °/1 °
Response time	500 mSec (95% or reading)
Repeatability	± 0,5% of reading or ± 1 °C, whichever is greater
Spectral focus	8 µm to 14 µm
Laser sighting	Single-point laser
Laser shutoff	Laser turns off above ambient temperature of 40 °C
Laser power	Class 2 (II) operation; output < 1 mW, wavelength 630 nm to 670 nm
Relative humidity	10% to 90% RH non-condensing, at < 30 °C
Power	2 AA batteries (alkaline or NiCD)
Display hold	7 seconds
Backlight display	Yes, LCD with dual temperatures (current and MAX/MIN/DIF/KTC), low battery, F/C indicator, and Scan/Hold options
Operating temperature	0 ° to 50 °C
Storage temperature	-20 ° to 65 °C
MAX, MIN, DIF temperatures	Yes
Thermocouple type K mini-adapter input	Yes, compatible with industry standard type K probes with mini-connector
Thermocouple type K Velcro® pipe probe	Yes, with a temperature range of 0 ° to 100 °C and accuracy of ± 2,2 °C
Measurement guide	Yes

THERMAL IMAGERS

Temperature changes can indicate problems in many everyday applications and a thermal imager makes it quick and easy to visually check surface temperatures. Often problems can be discovered before contact measurements even need to be made. Fluke offers a complete range of handheld thermal imagers for both industrial and building diagnostic applications.





The entry-level instrument for electricians and technicians

You won't find a better or more rugged entry-level thermal imager. Just point and shoot to capture the full picture, showing the hotspots that warn of imminent equipment failure.

The 160 x 120 resolution shows all the essential details. That greatly increases the speed of inspecting, repairing and verifying electrical and (electro) mechanical equipment. It also helps extend equipment life-time and avoid electrical fires.

FLUKE T19 • REF 131TA8456

DETAILED SPECIFICATIONS

Temperature	Temperature measurement range (not calibrated below -10 °C)	-20 °C to +250 °C
	Accuracy	± 5 °C or 5% (whichever is greater)
Imaging performance	Field of view	23 ° x 17 °
	Spatial resolution (IFOV)	2,5 mRad
	Minimum focus distance	Thermal lens: 15 cm
	Focus	Manual
	Image frequency	9 Hz refresh rate
	Detector type	160 X 120 focal plane array, uncooled micro-bolometer
	Infrared lens type	20 mm F = 0,8 lens
	Thermal sensitivity (NETD)	≤ 0,2 °C at 30 °C (200 mK)
Image presentation	Infrared spectral band	7,5 µm to 14 µm
	Palettes	Ironbow, blue-red, high contrast, grey
	Level and span	Smooth auto-scaling and manual scaling of level and span
	Minimum span (in manual mode)	5 °C
Image and data storage	Minimum span (in auto mode)	10 °C
	Storage medium	SD memory card (2 GB memory card will store at least 1200 fully radiometric (.is2) IR or 3000 basic (.bmp) IR images)
	File formats	Non-radiometric (.bmp) or fully-radiometric (.is2) No analysis software required for non-radiometric (.bmp) files
	Export file formats w/SmartView™ software	JPEG, BMP, GIF, PNG, TIFF, WMF, EXIF, and EMF

GENERAL SPECIFICATIONS

Temperature	Operating:	-10 °C to 50 °C
	Storage:	-20 °C to 50 °C without batteries
Relative humidity		10% to 90% non-condensing
Display		9,1 cm diagonal landscape color VGA (640 x 480) LCD with backlight (selectable bright or auto)
Controls and adjustments		User selectable temperature scale (°C/°F)
		Language selection
		Time/Date set
Software		SmartView™ full analysis and reporting software included
Power	Battery:	Internal rechargeable battery pack (included)
	Battery life:	Three to four hours continuous use (assumes 50% brightness of LCD)
	Battery charge time using AC adapter/charger and DC car charger:	Two hours for full charge
AC operation/charging		AC adapter/charger (110 V to 220 V, 50 Hz to 60 Hz). Charges battery while imager is operating. Universal AC mains adapters included.
Power saving		Sleep mode activated after 5 minutes of inactivity, automatic power off after 20 minutes of inactivity
Safety standards	CE Directive:	IEC/EN 61010-1 2nd Edition Pollution Degree 2
Electromagnetic compatibility	EMC directive:	EN61326-1
	C-Tick:	IEC/EN 61326
	US FCC:	CFR 47, Part 15 Class A
Vibration		2 G, IEC 68-2-29
Shock		25 G, IEC 68-2-29 {2 m drop, 5 sides}
Dimensions (HxWxL)		0,27 m x 0,13 m x 0,15 m
Weight		1,2 kg
IP rating		IP54
Warranty		Two years
Calibration cycle		Two years (assumes normal operation and normal aging)
Supported languages		English, Italian, German, Spanish, French, Russian, Portuguese, Swedish, Turkish, Czech, Polish, Finnish, Simplified Chinese, Traditional Chinese, Korean, and Japanese

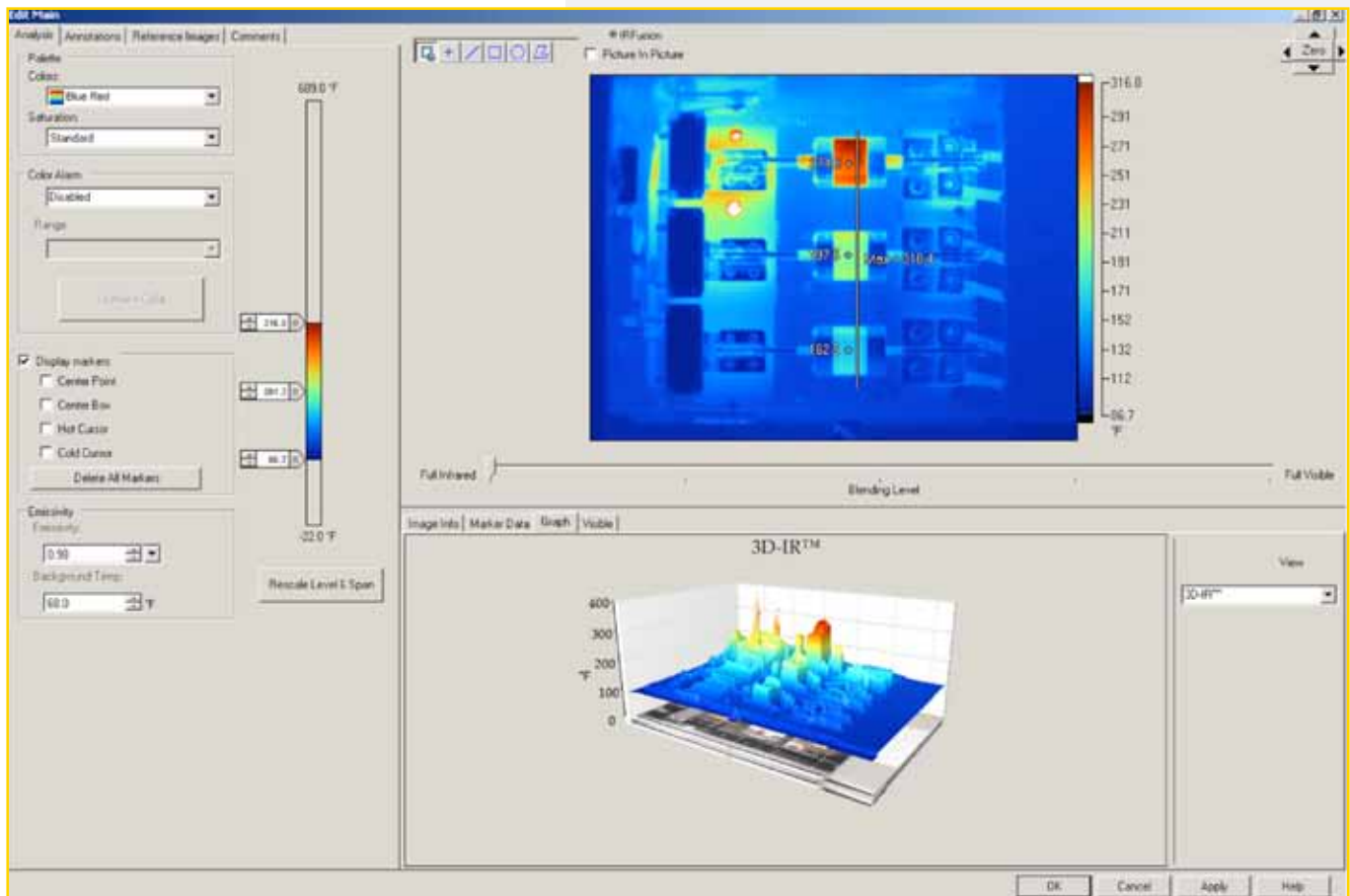
PRODUCT DESCRIPTION

Fluke Ti9	Thermal Imager
	Thermal imaging camera w/ 20 mm lens.
	Includes: <ul style="list-style-type: none"> • AC power supply/battery charger (including mains adapters) • SD memory card • SD card reader (USB) for downloading images to your computer • SmartView™ software • Rugged hard carrying case • Soft transport bag • Hand strap • User's manual • Warranty registration card • Training DVD

Including Fluke SmartView™ software

This powerful software is a modular suite of tools that annotates, views, edits and analyzes IR images.

It also generates fully customizable and professional-looking reports in a few easy steps.





Detect invisible problems in seconds

To detect defects and to carry out preventative maintenance in and on electric machines, the thermal imager has become an essential tool.

It enables you to detect problems that are quite difficult to find. Short circuits or bad connections in cable looms, overloaded fuses (see picture 1) or a bad connection in a relay, overheated electric motors or bearings (see picture 2), bad connections in traction batteries (see picture 3), badly soldered or faulty components on pcb's (see picture 4), ...

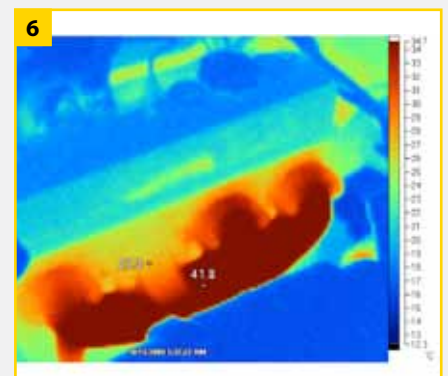
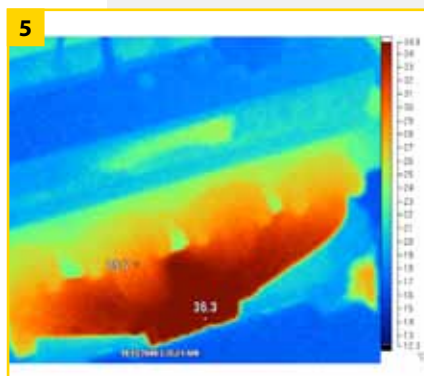
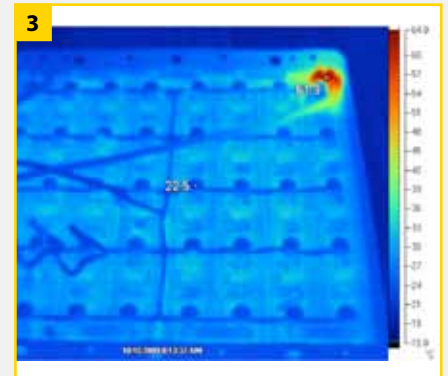
Also for the detection of defects in thermal engines, the thermal imagers become even more important.

Their added value is the detection of defects in the heating process. The cylinder with an insufficient combustion (see picture 5 & 6) can easily be found.

On top of that, the cooling capacity and flow of heat exchangers such as cooling radiators can efficiently be checked, as well as the operation of thermostats. Thermal images give a clear overview of the formation of hot spots in the motor, the gearbox, ...

Thermal imagers can also be used for multiple other applications, such as detecting cold spots or insulation problems in buildings or to detect inflammation or tumours within animals.

The number of applications is countless.



SCOPEMETER® TEST TOOLS

With the original ScopeMeter®, Fluke transformed the oscilloscope category beyond recognition, and they still lead the way today. From rugged solutions for industrial applications to models that pack top-end bench oscilloscope specifications into hand-held, battery powered instruments. In short, ScopeMeter® provides you with unmatched speed, performance and analysis power while working on-site.



120 SERIES SCOPEMETER®

FLUKE®



FLUKE 123 • REF 131TA8457

Battery life: 7 hours (Alkaline)

Size (HxWxD): 232 mm x 115 mm x 50 mm

Weight: 1,2 kg

Three-year warranty



INCLUDED ACCESSORIES

PM 8907 line adapter/charger, STL120 shielded test leads set (1 red, 1 grey), AC120 Alligator Clips, HC120 Hook Clips, BB120 shielded BNC adapter, Getting Started booklet, user's manual (CD-Rom)

RECOMMENDED ACCESSORIES



SCC120
REF 131TA8459
See page 24



C125
REF 131TA8460
See page 27



SCC128
REF 131TA8458
See page 24

Three-in-one simplicity

The compact ScopeMeter® 120 series is the rugged solution for industrial troubleshooting and installation applications. It is a truly integrated test tool, with oscilloscope, multimeter and "paperless" recorder in one affordable, easy-to-use instrument. Find fast answers to problems in machinery, instrumentation, control and power systems.

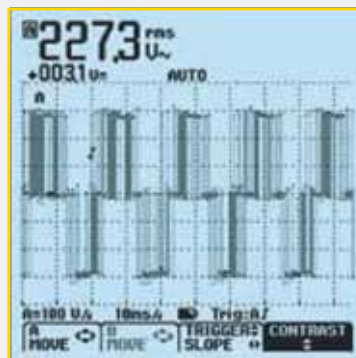
- Dual-input 20 MHz digital oscilloscope
- Two 5.000 counts true-RMS digital multimeters
- A dual-input TrendPlot™ recorder
- Connect-and-View™ trigger simplicity for hands-off operation
- Shielded test leads for oscilloscope, resistance and continuity measurements
- Up to 7 hours battery operation
- 600 V CAT III safety certified
- Optically isolated interface for PC and printer connection (optional)
- Rugged, compact case

Connect-and-View™ triggering for an instant, stable display

Scope users know how difficult triggering can be. Wrong settings show unstable and sometimes wrong results. Fluke's unique Connect-and-View recognizes signal patterns, and automatically sets up correct triggering. It provides a stable, reliable and repeatable display of virtually any signal - including motordrive and control signals - without touching a button. Signal changes are instantly recognized and settings adjusted for - once again - a stable display.

Use TrendPlot™ to help find intermittences fast

The toughest faults to find are those that happen only once in a while: intermittences. They can be caused by bad connections, dust, dirt, corrosion or simply broken wiring or connectors. You may not be around to see it - your Fluke ScopeMeter® will. In this "paperless recorder" mode, you can plot the minimum and maximum peak values and average over time - up to 16 days.



Connect-and-View captures even the most complex motor drive signals.



KIT

123/S
REF 134TA8727

Industrial ScopeMeter® (20MHz)
(REF 131TA8457)
+ SCC120 kit (REF 131TA8459)

GENERAL ACCESSORIES

The best test tools deserve accessories designed and manufactured to the same high quality and safety standards. So we also provide a comprehensive range of test leads, probes and clips, current clamps, temperature accessories and dedicated electronic and automotive accessories. And to protect your valuable instrument, choose a rugged Fluke tailor-made holster or case.



ELECTRONIC TEST LEADS, PROBES & CLIPS

TLK220 EUR SureGrip™ accessory kit

- AC220 SureGrip™ alligator clip set
- AC285 SureGrip™ large jaw alligator clip set
- TP74 slim reach test probe set (4 mm)
- TL224 SureGrip™ silicone test lead set
- Large zippered soft case with moveable divider

REF 134TA8375



TLK225 SureGrip™ master accessory kit

- AC220 SureGrip™ alligator clip set
- AC280 SureGrip™ hook clip set
- AC283 SureGrip™ pincer clip set
- AC285 SureGrip™ large jaw alligator clip set
- TP220 SureGrip™ test probe set
- TL224 SureGrip™ silicone test lead set
- 6-pocket storage pouch

REF 131TA8471



TL81A deluxe electronic test lead kit

- One pair (red, black) each 1 meter long silicone test lead set, alligator clip and probe tip extender
- Plus one pair (red, black) each modular 1 meter long silicone test lead, test probe, hook-style and pinch style clip, alligator clip, IC probe tip adapter and spade lugs
- Quadfold soft carrying case
- CAT II 300 V. UL listed

REF 131TA8461



TLK282 SureGrip™ deluxe automotive test lead kit

Kit contains:

- TP81 insulation piercing clip set
- TP40 automotive back probe pins (five)
- TL224 Suregrip™ silicone test lead set
- TP220 Suregrip™ test probe set
- AC220 Suregrip™ alligator clip set
- AC285 Suregrip™ large jaw alligator clip set
- AC280 Suregrip™ hook clip set
- Soft case

REF 131TA8462



SCC120 automotive accessory kit

- FlukeView® software + OC4USB cable + carrying case

Accessories Package, including:

- FlukeView® software for Windows. English, French and German language
- OC4USB optically isolated adapter/cable
- ScopeMeter® 120 series hard carrying case (black)
- One BB120 adapter
- Dimensions case: (W x H x D) 40 cm x 34 cm x 12 cm

REF 131TA8459



SCC128 automotive accessory kit

This kit provides a host of accessories that allow you to easily and quickly take measurements on automotive electronic systems using a 120 or 190 series ScopeMeter®.

REF 131TA8458



TL75 Hard Point™ test lead set

- One pair (red, black) comfort grip probes with PVC insulated test leads with right-angle shrouded banana plugs
- Recommended for general purpose measurements
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed

REF 112TA4865



TL76 all-in-one test lead set

- One pair (red, black) 1,5 meter long silicone test leads with right-angle shrouded banana plug
- Lantern tip (removable) for use with European wall sockets (4 mm Ø)
- Lantern tip can be removed for easy access to terminal blocks (2 mm Ø)
- Removable, insulated IC caps allow probing on closely spaced leads and compliance with GS38.
- Cat IV 600 V, CAT III 1000 V, 10 A rating. UL listed

REF 131TA8463



ELECTRONIC TEST LEADS, PROBES & CLIPS

TL220 SureGrip™ industrial test lead kit

- AC220 SureGrip™ alligator clip set
- TP220 SureGrip™ test probe set
- TL222 SureGrip™ silicone test lead set (right to right)

REF 107TA1224



TL224 SureGrip™ silicone test lead set

- DMM test leads (red, black) with safety shrouded, standard diameter banana plugs
- Right-angle connector on one end and straight connector on the other
- Reinforced strain relief
- 1,5 meter silicone-insulated wire resists heat & cold
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed

REF 129TA7685



SureGrip™ accessories are designed to improve steadiness in slippery hands. Rubber overmolded surfaces and fingerhugging curves give the user a comfortable, reliable grip on the accessory so they can focus on taking an accurate measurement.

TP220 SureGrip™ test probe set

- One pair (red, black) of Industrial test probes
- Sharp, 12 mm stainless steel tip provides reliable contact
- Flexible finger barrier improves grip
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V; CAT III 1000 V, 10 A rating. UL listed

REF 112TA4863



TP74 lantern tip test probe set

- One pair (red, black)
- Tips include banana-style spring contacts with nickel-plated brass ends
- CAT III 1000 V, 10 A rating. UL listed

REF 131TA8464



TP80 electronic test probe set

- Recommended for use with TL222 and TL224
- One pair (red, black)
- IC insulated cap prevents shortening of IC legs for probing high density components or boards
- CAT III 1000 V, 10 A rating. UL listed

REF 134TA8376



AC220 SureGrip™ alligator clip set

- One pair (red, black) of small, insulated, nickel plated jaws
- Blunt tip grabs round screw heads up to 9,5 mm
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V, CAT III 1000 V, 10 A rating. UL listed

REF 112TA4864



AC280 SureGrip™ hook clip set

- One pair (red, black) of nickel plated clips
- Profile narrows to 5,6 mm at tip, hook opening 6,4 mm at front, 2 mm at base
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V, CAT III 1000 V, 3 A rating. UL listed

REF 131TA8465



ELECTRONIC TEST LEADS, PROBES & CLIPS

AC283 SureGrip™ pincer clip set

- One pair (red, black) of nickel plated pincers open to 5 mm
- 11,4 cm flexible insulated shaft
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V, CAT III 1000 V, 1 A rating.
UL listed

REF 131TA8466



AC285 SureGrip™ large jaw alligator clip set

- One pair (red, black) of large alligator clips with nickel-plated steel jaws
- Multi-purpose tooth pattern grips anything from fine gauge wire to a 20 mm bolt
- Recommended for use with TL222 and TL224 test leads
- CAT IV 600 V; CAT III 1000 V, 10 A rating.
UL listed

REF 131TA8467



AC89 heavy duty insulation piercing test clip

- Single probe pierces 0,25 to 1,5 mm insulated wire
- Small pin allows self-healing of the insulation
- CAT IV 600V, CAT III 1000 V, 5 A rating.
UL listed

REF 131TA8468



AC72 alligator clip set

- Slide-on alligator clips (red, black) for TL71/TL75
- Jaws provide 8 mm opening
- CAT IV 600 V, CAT III 1000 V,
10 A rating. UL listed

REF 131TA8469



ToolPak (TPAK)

The meter hanging solution

- Kit includes, universal hanger clips (2), hook & loop straps (2 lengths) and strong magnet
- Combine components to meet most hanging needs

*See page 25 for
compatibility chart*

REF 131TA8446



CASES AND HOLSTERS

Soft cases

Zippered carrying cases protect your meter; most cases come with belt loops so your meter is stored conveniently on your tool belt.



C25 - 218 mm x 128 mm x 64 mm
REF 131TA8450



C50 - 192 mm x 90 mm x 38 mm
REF 131TA8444



C90 - 205 mm x 90 mm x 72 mm
REF 131TA8448



C125 - 192 mm x 141 mm x 58 mm
REF 131TA8460

C550 tool bag

- Steel reinforced frame
- Rugged ballistic cloth with heavy duty hardware
- Large zippered storage compartment with 25 pockets
- Weather-resistant
- Carry all your tools to the job
- 333 mm x 513 mm x 231 mm

REF 131TA8470



H3 clamp meter holster

- Fabric holster absorbs shocks and protects meter from rough handling.
- Built-in pocket for lead storage
- Convenient belt-loop with snap
- 231 mm x 90 mm x 64 mm

REF 131TA8452



H6 infrared thermometer holster

- Durable nylon holster
- For Fluke 63, 66 and 68 Infrared Thermometers
- 302 mm x 178 mm x 57 mm

REF 131TA8455















CASES & HOLSTERS COMPATIBILITY CHART

Type of meter	C25	C50	C90	C125	H3	H6	Toolpak
113/114/115/116/117	✓	✓					✓
175/177/179	✓		✓				✓
287/289							✓
27	✓						
77 IV	✓		✓				✓
83V/87V/88V	✓			✓			✓
T5							
T50							
T100 Series							
321/322					✓		
333/334/335/336/337/902					✓		
353/355							
1503/1507/1577/1587	✓			✓			✓
9040/9062	✓						
1735/1740 Series							
430 Series							
43B/120 Series				✓			
190 Series/225C/215C							
922	✓		✓	✓			✓
971	✓						
51/52/53/54 II	✓	✓					✓
561						✓	
566/568						✓	
570 Series							
61							
63/66/68						✓	
705/707							
712/714/715/717	✓						✓
718				✓			
724/725/726	✓			✓			✓
741B/743B/744							
787	✓			✓			
789	✓			✓			✓

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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-  **REF 7072186***
Brake & Clutch cylinders
-  **REF 7901151***
Brushes
-  **REF 9103419***
Bulbs
-  **REF 10185471***
Contacts & contact kits
-  **REF 8255616***
Engine parts
-  **REF 10727802***
Exhaust systems
-  **REF 7543353***
Filters: quick search
-  **REF 9103420***
Fuses, fuse holders
-  **REF 10550844***
Hand Pallet Truck Parts
-  **REF 14702080***
Hydraulic system parts
-  **REF 10195714***
Key switches
-  **REF 12594102***
Labels & decals

- **REF 12410757***
LPG system parts
- **REF 7872482***
Mast rollers
- **REF 7882672***
Paint & accessories
- **REF 7835233***
Potentiometers & Encoders
- **REF 7083552***
Relays
- **REF 13991397***
Seats & accessories
- **REF 6252659***
Starters & alternators
- **REF 13969763***
Tyres, rims, rubber tracks & accessories
- **REF 6781097***
Wheels, rollers & castors
- **REF 12206208***
Brushes for sweepers & scrubbers
- **REF 12726578***
Replacement parts suitable for Genie
- **REF 12613028***
Replacement parts suitable for JLG

- ▶ **REF 14533456** - *English*
- ▶ **REF 14690780** - *Dutch*
- ▶ **REF 14690778** - *French*

The image displays a variety of Total Source and TVHO products. At the top left is a 'TOTAL SOURCE' catalog featuring a forklift. To its right is a 'TVHO' master catalog. Below these are several specialized catalogs, including one for 'FORKLIFT TRUCKS' and another for 'TRAILERS'. A large, curved display of various equipment parts and components is shown at the bottom, with labels such as 'ENGINE PARTS', 'EXHAUST SYSTEMS', 'FUSES, FUSE HOLDERS', 'KEY SWITCHES', 'LABELS & SIGNS', 'SPRINKLER & FIRE', and 'CLIMATE'.

TVH is an Official Distributor for Fluke quality test and measurement tools

Consult our catalogue on-line on www.tvh.com/fluke

